

# **Local Hazard Mitigation Plan ANNEX**

## **Town of Moraga**

### **Introduction**

The Town of Moraga is a small town in Contra Costa County, California. The Town has a population of 16,290 people, based on the 2000 census<sup>1</sup>. In fiscal year 2006-07, the Town's budget was \$10.99 million including an operating budget of \$4.65 million reflecting 35.16 authorized staff positions. The Town provides local police services. Partial services for policing such as communications are contracted with the Contra Costa County Sheriff's Department. Fire services are provided by a separate fire district (Moraga/Orinda Fire Protection District). Building inspection services and permitting are provided by Contra Costa County.

### **The Planning Process**

This process of preparing this plan was familiar to the Town of Moraga. The Town has a Safety Element to its General Plan, last updated in 2002, that includes a discussion of fire, earthquake, flooding, and landslide hazards. In addition, the Town routinely enforces the requirements of the California Environmental Quality Act (CEQA) requirements (which, since 1988, have required mitigation for identified natural hazards). The Town's effort has focused on building on these pre-existing programs and identifying gaps that may lead to disaster vulnerabilities in order to work on ways to address these risks through mitigation.

Many of the activities conducted by the Town were fed into the planning process for the multi-jurisdictional plan. The Town participated in various ABAG workshops and meetings, including the general "kick-off" meeting. In addition, the Town has provided comments on the multi-jurisdictional plan. Finally, the Town provided information on facilities that are viewed as "critical" to ABAG.

Key Town staff met to identify and prioritize mitigation strategies appropriate for the Town. Staff involved in this meeting included the Town Manager, Public Works Director, Police Chief, and Superintendent of Streets and Parks. General priorities and appropriate Town departments were identified. Preliminary budgets and potential funding sources for strategies designed as "High" priority were discussed in later conversations and via email. The Town provided the opportunity for the public to comment on the draft annex and mitigation strategies selected by Town staff at the Town Council meeting on February 28, 2007. Prior to this meeting, the staff proposal was available on the Town's website. The resolution adopting the plan and strategies was approved by the Town Council on April 11, 2007. The mitigation strategies will become an implementation appendix to this Safety Element.

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<sup>1</sup> For complete Census information on this Town, see <http://www.bayareacensus.ca.gov/>.

## Hazard and Risk Assessment

The ABAG multi-jurisdictional Local Hazard Mitigation Plan, to which this is an Annex, lists nine hazards that impact the Bay Area, five related to earthquakes (faulting, shaking, earthquake-induced landslides, liquefaction, and tsunamis) and four related to weather (flooding, landslides, wildfires, and drought). These hazards also impact this community, except for surface faulting and tsunami. Surface faulting is not a hazard in the Town of Moraga because no active faults are located in the Town. Tsunamis are not a hazard in the Town due to the Town's location distance from San Francisco Bay and the Pacific Ocean.

While the Town has undertaken a number of general hazard mapping activities since the first Safety Element was prepared by the Town, all of these maps are less detailed and are not as current as those shown on the ABAG website at <http://quake.abag.ca.gov/mitigation/>.

The Town has had a number of landslides in the hills on the north side of the Town, including one on Rheem Blvd that closed the roadway in 1986. Additionally, Moraga was included in the Federally Declared Disasters DR 1628 and 1644 (New Years Storms 2006) which resulted in significant storm related damage in the Town. This additional hazard information was included at the Town Council meeting held on February 28, 2007.

Information on disasters declared in Contra Costa County is at <http://quake.abag.ca.gov/mitigation/disaster-history.html>.

The Town examined the hazard exposure of Town urban land based on the information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Of the 3,768 urban acres in the Town,

- ◆ Earthquake faulting – No active faults run within the Town so rupture of a fault is not a direct concern.
- ◆ Earthquake shaking – 1,891 acres are in the highest two categories of shaking potential.
- ◆ Earthquake-induced landslides – The California Geological Survey has not completed mapping of this hazard in the Town of Moraga. However, because few areas have been mapped as landslides, this hazard is viewed as similar to that posed by weather-related hazards.
- ◆ Earthquake liquefaction – 871 acres are in areas of moderate, high, or very high liquefaction susceptibility. The California Geological Survey has not completed mapping of this hazard in the Town of Moraga.
- ◆ Tsunamis – No facilities are at risk from tsunami. The Town does not border the Pacific Ocean or the San Francisco Bay
- ◆ Flooding – 88 acres are in the 100-year flood plain, while an additional 52 acres are in other flood-prone areas.
- ◆ Landslides – 1,556 acres are in areas of existing landslides.
- ◆ Wildfires – 801 acres are subject to high, very high, or extreme wildfire threat (because of the nature of the development in the Town), and 3,495 acres are in wildland-urban interface threat areas.
- ◆ Dam Inundation – 131 acres are subject to dam inundation.

- ◆ Drought – all 3,768 acres are subject to drought.

The Town also examined the hazard exposure of infrastructure based on the information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickdbh2.html>. Of the 40 miles of roadway in the Town,

- ◆ Earthquake faulting – No active faults run within the Town so rupture of a fault is not a direct concern.
- ◆ Earthquake shaking – 40 miles of roadway are in the highest two categories of shaking potential.
- ◆ Earthquake-induced landslides – The California Geological Survey has not completed mapping of this hazard in the Town of Moraga. However, this is likely to be an issue because many Town's roads are in existing landslide areas.
- ◆ Earthquake liquefaction – 22 miles of roadway are in areas of moderate, high, or very high liquefaction susceptibility. While the Town does not own or maintain the water distribution system or sewer system in Town, the Town does own and maintain certain portions of the storm drain system which run under the public roads.
- ◆ Tsunami – No facilities are at risk from tsunami. The Town does not border the Pacific Ocean or the San Francisco Bay.
- ◆ Flooding – 2 miles of roadway are in the 100-year flood plain, while an additional one mile is in other flood-prone areas.
- ◆ Landslides – 28 miles of roads are in areas of existing landslides. The Town has several road compromised by landslides that have been repaired.
- ◆ Wildfires – 10 miles of roadway are subject to high, very high, or extreme wildfire threat, and 72 miles of roads are in wildland-urban interface threat areas.
- ◆ Dam Inundation – 3 miles of roadway is in an area subject to dam inundation.
- ◆ Drought – is not a hazard for roadways.

Finally, the Town examined the hazard exposure of critical health care facilities, schools, and Town-owned buildings based on the information on ABAG's website at <http://quake.abag.ca.gov/mitigation/pickerit.html>. Of the critical facilities in the Town,

- ◆ Earthquake faulting – No active faults run within the Town so rupture of a fault is not a direct concern
- ◆ Earthquake shaking – All of the schools, fire stations, Town owned structures, and critical care facilities are in the moderate to high categories for shaking. None are in the highest potential.
- ◆ Earthquake-induced landslides – The California Geological Survey has not completed mapping of this hazard in the Town of Moraga. Potentially, there may be infrastructure at risk since there are roads in existing landslide areas.
- ◆ Earthquake liquefaction – Schools, and Town-owned facilities including 3 bridges are in areas of moderate to high liquefaction susceptibility.
- ◆ Tsunamis – Tsunamis are not a risk in the Town. The Town does not border the Pacific Ocean or the San Francisco Bay.
- ◆ Flooding – No critical facilities are in either the 100-year flood plain or in other flood-prone areas. However, all facilities are listed as being in a minimal or undetermined flood hazard zone.

- ◆ Landslides – Town-owned facilities are identified as being in areas with “very few or no landslides”. Two of the schools are located in “mostly a landslide area”. The Moraga schools are operated and maintained by the Moraga School District.
- ◆ Wildfires – All facilities are identified as being in the “moderate to low threat” category. All facilities are within the wildland urban area wildfire interface area.
- ◆ Dam Inundation – No critical health care facilities, schools, or Town-owned facilities are in an area subject to dam inundation.
- ◆ Drought – Drought will not affect Town buildings directly. The Town does not operate a water-supply distribution system.

In spite of the areas of the Town located in flood-prone areas, there are no repetitive loss properties in the Town based on the information at <http://quake.abag.ca.gov/mitigation/pickflood.html>.

The Town plans to work with ABAG during 2007 to improve the risk assessment information being compiled by ABAG.

Drought, though a potential problem in the Town, is not fully assessed. The Town will work with ABAG and various water supply agencies on this issue.

The Town plans to work with ABAG to develop specific information about the kind and level of damage to buildings, infrastructure, and critical facilities which might result from any of the hazards previously noted.

As these impacts are not fully developed, the Town has reviewed the hazards identified and ranked the hazards based on past disasters and expected future impacts. The conclusion is that earthquakes (particularly shaking), flooding, wildfire, and landslides (including unstable earth) pose a significant risk for potential loss

## **Mitigation Activities and Priorities**

As a participant in the ABAG multi-jurisdictional planning process, Town of Moraga staff helped in the development and review of the comprehensive list of mitigation strategies in the overall multi-jurisdictional plan. The list was discussed at a meeting of the Town Police Chief, Public Works Director, and Town Manager on February 1, 2007. At the meeting, all of the mitigation strategies were reviewed. The tentative decision on priority was made based on a variety of criteria, not simply on an economic cost-benefit analysis. These criteria include being technically and administratively feasible, politically acceptable, socially appropriate, legal, economically sound, not harmful to the environment, and consistent with the Town policy of being a minimal government.

Over time, we are committed to developing better hazard and risk information to use in making those trade-offs. We are not trying to create a disaster-proof region, but a disaster-resistant one. In addition, several of the strategies are existing Town programs.

These draft priorities were submitted to the Town Manager for review. The draft priorities were then provided to the Town Council on February 28, 2007. The public was provided with an

opportunity to comment on the draft priorities. The final strategies (as shown in the attached Table) were adopted by the Town Council on April 11, 2007 and will become an *Implementation Appendix* to the Town's *Safety Element*.

In addition, the Town examined the hazard exposure information to Town-owned critical facilities supplied by ABAG. The Town has determined that the new Town Center Building, currently being refurbished, will become the primary Emergency Operations Center (EOC) in the event of a disaster. Phase Two of retrofit of Police Department facility @ 329 Rheem Blvd. is underway, with an estimated completion date in FY 2008/09. Funding for the final \$100,000 of work is still being identified. An emergency generator is in place, capable of powering the building in its entirety as all Town offices will be located in the structure.

Seismic retrofit of the Town Corporation Yard has not been funded. Total cost of this project is approximately \$400,000. Various sources of possible funding are being examined, including a grant from FEMA.

## **The Plan Maintenance and Update Process**

The Town's Police Department will ensure that **monitoring** of this Annex will occur. The plan will be monitored on an on-going basis. However, the major disasters affecting our community, legal changes, notices from ABAG as the lead agency in this process, and other triggers will be used. Finally, the Annex will be a discussion item on the agenda of the meeting of Town department heads at least once a year in April. At that meeting, the department heads will focus on **evaluating** the Annex in light of technological and political changes during the past year or other significant events. This group will be responsible for determining if the plan should be updated.

The Town of Moraga is committed to reviewing and **updating** this plan annex at least once every five years, as required by the Disaster Mitigation Act of 2000. The Town's Chief of Police will contact ABAG four years after this plan is approved to ensure that ABAG plans to undertake the plan update process. If so, the Town again plans to participate in the multi-jurisdictional plan. If ABAG is unwilling or unable to act as the lead agency in the multi-jurisdictional effort, other agencies will be contacted, including the County's Office of Emergency Services. Counties should then work together to identify another regional forum for developing a multi-jurisdictional plan.

The **public** will continue to be involved whenever the plan is updated, and as appropriate during the monitoring and evaluation process. Prior to adoption of updates, the Town will provide the opportunity for the public to comment on the updates. A public notice will be posted prior to the meeting to announce the comment period and meeting logistics.